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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,788	01/30/2004	Anthony J. Berno	100/1026-10	7134
31662	7590	02/28/2006	EXAMINER	
PERLEGEN SCIENCES, INC. LEGAL DEPARTMENT 2021 STIERLIN COURT MOUNTAIN VIEW, CA 94043			WHALEY, PABLO S	
			ART UNIT	PAPER NUMBER
			1631	

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/768,788	BERNO ET AL.	
	Examiner	Art Unit	
	Pablo Whaley	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-139 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-139 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

ELECTION/RESTRICTIONS

Restriction to one of the following inventions is required under 35 U.S.C. 121:

GROUPS

- I. Claims 1-118, and 133-139 drawn to a computer-implemented method and data processing apparatus for characterizing an interrogation position in a nucleic acid segment, a method for determining a relative allele frequency for an interrogation position in a nucleic acid segment, and a computer-implemented method for characterizing a polymorphic marker in a nucleic acid, classified in class 702, subclass 19. If this specie is elected, then the below summarized specie election is further required.
- II. Claim 119-132, drawn to computer-implemented method for characterizing an interrogation position in a nucleic acid segment, classified in class 702, subclass 019. If this specie is elected, then the below summarized specie election is further required.

The inventions are distinct and divergent, each from the other because of the following reasons:

The inventions of Groups I and II are drawn to methods generally resulting in characterizing an interrogation position in a nucleic acid segment. While the inventions of Groups I and II are related, they consist of distinct steps and therefore have different modes of operation, different functions, or different effects. In the instant case the inventions of Group I and Group II have different effects. Methods of genetic characterization using hybridization intensities are known in the art (Hulbert et al., Proceedings of the National Academy of Sciences of the, 1990). Group I consists of steps using hybridization probe intensities, and characterizing the interrogation position based on hybridization probe intensities, both of which are not present

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in Group I. Steps of Group I that are not present in Group II include measures of relative allele frequency at the interrogation position in a nucleic acid segment, determining a plurality of intensities from nucleic acid segments, and determining the relative allele frequency of an interrogation position using intensity averaging equations. Furthermore, Group I consists of a data processing apparatus. Thus the burden of search is maintained as the examination process requires a search of non-patent literature, U.S. patent publications, U.S. patents, as well as foreign patent literature.

Because these inventions are distinct and divergent for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

SPECIE ELECTION REQUIREMENT

This application contains claims directed to patentably distinct species of the claimed invention. If Group I is elected, the applicant is further required to elect a species from EACH of groups A-E below. If Group II is elected, then applicant is further required to elect a single specie from EACH of groups D and E below.

Specie A: Species of phenotypic characteristics of interest are cited in claims 7, 8, 10, and 11, which are drawn to distinct therapeutic responses to clinically distinct disorders which are generally separately classified and published, and thus document undue search burden if searched together. Thus applicants are required to select one particular type of phenotypic characteristic of interest from those listed in claims 7, 8, 10, and 11.

Specie B: Species of the measure of relative allele frequency are cited in claims 50, 51, 52, 55, and 58, which are drawn to intensities determined by signal averaging, multiple signal

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averaging, corrected signal averaging, and hybridization to perfect match probes, and thus document undue search burden if searched together. Thus applicants are required to select one type of measure of relative allele frequency from those listed in claims 50, 51, 52, 55, and 58.

Specie C: Species of the mean intensities are cited in claims 62, 63, 110, 111, 116, and 117, which are drawn to mathematically distinct operations, and thus document undue search burden if searched together. Thus applicants are required to select one of the following mean intensities:

- i. arithmetic mean
- ii. trimmed mean

Specie D: Species of the candidate genes are cited in claims 129-132, which are drawn to distinct genetic sequences, and thus document undue search burden if searched together. Thus applicants are required to select one of the following candidate genes:

- i. candidate gene not previously known
- ii. candidate gene previously known

Specie E: Species of the nucleotide segment positions are cited in claims 129-132, which are drawn to distinct genetic positions, and thus document undue search burden if searched together. Thus applicants are required to select one of the following nucleotide segment positions:

- i. Proximal to a region of a candidate gene
- ii. Within a region of a candidate gene
- iii. Within an untranslated region of a candidate gene

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from EACH of groups A-E above for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-6, 12-49, 64-109, 112-115, 118-128, and 133-139 are generic to the above species.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Whaley whose telephone number is (571)272-4425. The examiner can normally be reached on 9:30am through 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel can be reached on (571)272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARJORIE A. MORAN
PRIMARY EXAMINER

Marjorie A. Moran
2/16/04